

June 3, 2004

Mr. David A. Christian  
Senior Vice President and Chief Nuclear Officer  
Dominion Resources Services, Inc.  
Innsbrook Technical Center  
5000 Dominion Blvd.  
Glen Allen, VA 23060-6711

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 7 -  
DOMINION NUCLEAR NORTH ANNA, LLC EARLY SITE PERMIT  
APPLICATION FOR THE NORTH ANNA ESP SITE (TAC NO. MC1127)

Dear Mr. Christian:

By letter dated September 25, 2003, Dominion Nuclear North Anna, LLC (Dominion) submitted its application for an early site permit (ESP) for the North Anna ESP site.

The Nuclear Regulatory Commission (NRC) staff is performing a detailed review of the Site Safety Analysis Report (SSAR) in your ESP application. The NRC staff is requesting additional information with respect to the application. Various topics are covered in the requests for additional information (RAIs) contained in Enclosure 1. These RAIs were sent to you via electronic mail on May 26, 2004, and were discussed with your staff by phone on June 1, 2004. As a result of this phone conference, draft RAIs 13.3-11 and 13.3-12 were deleted because the NRC staff concluded that the information requested in those RAIs is not needed for the staff's review. The remaining RAIs were renumbered accordingly.

Receipt of requested information within 75 days of the date of this letter will support the NRC's efficient and timely review of Dominion's ESP application. Please note that failure to provide a response in a timely fashion may result in a delay of completion of the staff's safety evaluation report.

D. A. Christian

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If you have any questions or comments concerning this matter, you may contact me at (301) 415-1421 or [mls3@nrc.gov](mailto:mls3@nrc.gov).

Sincerely,

*/RA/*

Michael L. Scott, Dominion ESP Project Manager  
New Reactors Section  
New, Research and Test Reactors Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket No. 52-008

Enclosure: As stated

cc: See next page

D. A. Christian

-2-

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Michael L. Scott, Dominion ESP Project Manager  
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cc: See next page

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OFFICE	RNRP/PM	SPSB/SC*	EPPO/SC*	SPSB/SC*
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DATE	6/3/04	6/1/04	6/2/04	6/1/04
OFFICE	OGC	RNRP/SC		
NAME	NLO/BPoole	LDudes-jms for:		
DATE	6/3/04	6/3/04		

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**North Anna Early Site Permit Application  
Site Safety Analysis Report (SSAR)  
Requests for Additional Information (RAI)  
RAI LETTER NO. 7**

SSAR Section 1.8, Conformance to NRC Regulations and Regulatory Guidance

RAI 1.8-1

Please provide a comprehensive listing of NRC regulations and regulatory guidance applicable to the Dominion early site permit (ESP) SSAR and the affected SSAR sections. For example, please state whether 10 CFR 100.21(f) and Regulatory Guide (RG) 4.7 apply to SSAR Section 13.6, and whether RG 1.183 applies to SSAR Section 15.0.

SSAR Section 2.2.3, Evaluation of Potential Accidents

RAI 2.2.3-1

Please identify and evaluate potential hazards, if any, associated with the existing North Anna Units 1 and 2 (excluding severe accidents) that may affect the type of facility proposed to be located at the ESP site. Establish site parameters for any identified hazards, such that they will not pose an undue risk to the proposed type of facility.

SSAR Section 2.3.1, Regional Climatology

RAI 2.3.1-6

The methodology used to determine site-specific design-basis tornado parameters as discussed in the response to RAI 2.3.1-1(g) is very sensitive to changes in F class of 1 or 2 tornadoes when the total number of tornadoes is small (24). Consequently, the uncertainty in the estimate of the wind speed is large. Please calculate the site tornado parameters using a 2-degree square box and provide the staff a copy of the resulting calculation/analysis.

SSAR Section 2.3.4, Short-Term (Accident) Diffusion Estimates

RAI 2.3.4-1

Please provide the results of executing the PAVAN computer code using the wind speed categories discussed in Section 4.6 of NUREG/CR-2858 (i.e., 0.5, 0.75, 1.0, 1.25, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, and 10 m/sec). Also, please provide a copy of the input file(s) used to execute PAVAN.

SSAR Section 2.3.5, Long-Term (Routine) Diffusion Estimates

RAI 2.3.5-1

Please provide a copy of the input file(s) used to execute XOQDOQ in support of calculating the long term (routine release)  $\chi/Q$  and  $D/Q$  values presented in SSAR Section 2.3.5.

RAI 2.3.5-2

SSAR Section 2.3.5 and Table 2.3-16 present bounding maximum annual  $\chi/Q$  and D/Q values at or beyond the site boundary for routine releases. However, the SSAR Section 1.8.1 discussion on Regulatory Guide 1.70 (top of SSAR Page 2-1-63, Revision 0) states that the maximum annual average  $\chi/Q$  values at or beyond the site boundary for each venting location will be provided in the COL application. Please reconcile these two statements.

SSAR Section 13.3, Emergency Planning

RAI 13.3-10

SSAR Section 13.3.2.2.2.k (Radiological Exposure Control) relies on the existing North Anna units' radiological protection procedures, stating that the procedures would be applicable to the ESP site or would be addressed in future radiological protection procedures. SSAR Section 13.3.2.2.2.k.4 (Authorization of Exposure Above Dose Limits), which substantively repeats a portion of NAEP Section 6.4.1 (Emergency Exposure Limits), states that approval from the "emergency coordinator" is necessary for planned exposures greater than the 10 CFR Part 20 annual limits. NAEP Section 6.4.1 states that this approval will be from the "Station Emergency Manager." Please explain the difference in the designated approval source.

RAI 13.3-11

Please provide a conclusion and supporting analysis, based on extrapolation of data on permanent resident and transient population to future years, regarding whether increases in population during the term of an ESP could pose a significant impediment to development of emergency plans. Include the population increase (including staff at the North Anna Power Station) that would be expected to occur as a result of operation of new reactors at the site.

RAI 13.3-12

Please provide capacities of evacuation assembly centers (EACs).

RAI 13.3-13

Please provide a cross-reference to information in State and Local emergency plans that is used to demonstrate compliance with each State and Local evaluation criterion in Supplement 2 to NUREG-0654/FEMA-REP-1.

RAI 13.3-14

Please provide the following information regarding the State and Local emergency plans:

- a) Availability and capabilities of laboratories referred to in the plans.
- b) Description of periodic program in Orange County for informing the public of how they will be notified and what actions should be taken during an emergency.

- c) Description of program in Orange County for periodic, non-emergency briefings for the media.
- d) Explanation for differences between assumptions in the SSAR and assumptions in the State emergency plan regarding reliance on the U.S. Department of Energy for airborne radioactive plume tracking.
- e) Clarification of the use of Patrick Henry High School as an EAC and an alternate remote assembly area (RAA).
- f) Agreements for assistance (e.g., traffic control) from offsite agencies (such as the Commonwealth of Virginia and Louisa County) in evacuating site personnel.
- g) Description of measures in Orange County and in the Commonwealth of Virginia RERP (COVRERP) for dealing with potential impediments to use of evacuation routes.
- h) Guidance and/or criteria in local emergency plans for when sheltering should be considered.
- i) Decision-making guidance and authority for emergency workers to exceed U.S. Environmental Protection Agency exposure limits.
- j) Measures (e.g., pocket dosimeter limits) to ensure that the use of an exposure control ratio, as described in the COVRERP, does not result in emergency workers exceeding exposure limits.
- k) Description in the COVRERP of the capabilities of local and backup hospital and medical services.
- l) Description in the COVRERP of the program for qualifying State and local directors/coordinators of emergency response.
- m) Description of the training program for the Orange County Emergency Services Coordinator.
- n) Description in the Orange County RERP of criteria or plans for periodic review and update of the plan or agreements.
- o) Cross-references in the Orange County RERP to the criteria in Supplement 2 to NUREG-0654/FEMA-REP-1.

NORTH ANNA EARLY SITE PERMIT  
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